

7m



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/369,386	08/06/1999	MOTOTAKA TANEYA	914-101	6727

23117 7590 10/06/2004

NIXON & VANDERHYE, PC  
1100 N GLEBE ROAD  
8TH FLOOR  
ARLINGTON, VA 22201-4714

EXAMINER

PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
----------	--------------

2673

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/369,386

Applicant(s)

TANEYA ET AL.

Examiner

Jeff Piziali

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-10,14,16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-10,14,16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 24 May 2004 has been entered.

### *Priority*

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

Art Unit: 2673

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2-10, 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rebeschi et al. (US 5,781,167) in view of Tang et al. (US 5,294,869) and Koyama et al. (US 6,144,354 A). [Note: Claim order has been rearranged numerically to match claim dependencies.]

Regarding claim 10, Rebeschi discloses an EL emission device [Fig. 2; 200], comprising: first [Fig. 2; 216] and second [Fig. 2; 212] electrode layers, at least one of which is transparent; a light emission layer [Fig. 2; 214] for EL emission sandwiched between the first and second electrode layers for together supplying prescribed electric fields to the light emission layer; and voltage application means [Fig. 2; 217] for applying a voltage between an electrode included in the first electrode layer and an electrode included in the second electrode layer (see Column 3, Lines 56-64), wherein at least the first electrode layer includes a plurality of electrodes arranged with spatial periodicity, the plurality of electrodes included in the first electrode layer together with adjacent regions in the second electrode layer including at least one electrode form a plurality of electrode pair regions arranged with spatial periodicity (see Column 3, Lines 40-64), the voltage application means applies the prescribed electric fields in a manner such that the prescribed electric fields are always different from each other in polarity in adjacent electrode pair regions (i.e. row-by-row or line polarity inversion) and vary in a time-dependent manner

Art Unit: 2673

(see Figs. 6A-6F; Column 4, Line 17 - Column 5, Line 3). Rebeschi does not explicitly disclose an organic EL emission device or dot polarity inversion.

However, Tang discloses an organic EL emission device [Fig. 1; 100] comprising first [Fig. 1; R1-R5] and second [Fig. 1; C1-C5] electrode layers, at least one of which is transparent; an organic light emission layer [Fig. 1; EL] for EL emission sandwiched between the first and second electrode layers for together supplying prescribed electric fields to the organic light emission layer, the organic light emission layer being in direct contact with the second electrode layer, wherein at least the first electrode layer includes a plurality of electrodes arranged with spatial periodicity, the plurality of electrodes included in the first electrode layer together with adjacent regions in the second electrode layer including at least one electrode form a plurality of electrode pair regions arranged with spatial periodicity, and applying the prescribed electric fields in a manner such that the prescribed electric fields are different from each other in polarity in adjacent electrode pair regions and vary in a time-dependent manner (see Column 4, Line 13 - Column 5, Line 56).

Rebeschi and Tang are analogous art because they are from the shared field of EL type display devices. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to use Tang's organic EL display device with Rebeschi's EL voltage application means, so as to prevent resolution degradation on a commercially popular type of display.

Moreover, Koyama discloses an EL emission device [Fig. 1; 110] (see Column 18, Lines 60-64) comprising a plurality of electrodes included in a first electrode layer [Fig. 1; 114] together with adjacent regions in a second electrode layer [Fig. 1; 112] including at least one

Art Unit: 2673

electrode forming a plurality of electrode pair regions [Fig. 1; 116] arranged with spatial periodicity (see Column 8, Lines 27-65), and a voltage application means [Fig. 1; 200 & 300] applying prescribed electric fields in a manner such that the prescribed electric fields are always different from each other in polarity in all adjacent electrode pair regions (i.e. dot polarity inversion) and vary in a time-dependent manner (see Figs. 7 & 11; Column 12, Line 5 - Column 12, Line 56).

Koyama and Rebeschi (along with Tang) are analogous art because they are from the shared field of EL type display devices. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to use Koyama's dot polarity inversion driving technique with Rebeschi's EL voltage application means (and Tang's organic EL display), so as to further improve and stabilize image qualities.

Regarding claim 2, Rebeschi discloses electric fields with at least different polarity to be applied to electrode pair regions adjacent to each other among the plurality of electrode pair regions are varied with a constant time periodicity (see Figs. 6A-6F; Column 4, Line 17 - Column 5, Line 3).

Regarding claim 3, Rebeschi discloses alternating voltages with opposite polarities are applied to electrode pair regions adjacent to each other among the plurality of electrode pair regions (see Figs. 6A-6B; Column 4, Lines 43-50).

Art Unit: 2673

Regarding claim 4, Tang discloses at least the first electrode layer includes a plurality of electrodes in one of a dot-like form and a stripe-like form [Fig. 1; R1-R5] (see Column 4, Line 13 - Column 5, Line 56).

Regarding claim 5, Tang discloses the second electrode layer includes a plurality of stripe-like electrodes [Fig. 1; C1-C5] positioned in parallel to the plurality of stripe-like electrodes [Fig. 1; R1-R5] included in the first electrode layer (see Column 4, Line 13 - Column 5, Line 56).

Regarding claim 6, Tang discloses the second electrode layer includes a plurality of stripe-like electrodes [Fig. 1; C1-C5] arranged to intersect the plurality of stripe-like electrodes [Fig. 1; R1-R5] included in the first electrode layer (see Column 4, Line 13 - Column 5, Line 56).

Regarding claim 7, Rebeschini discloses a first group of electrodes [Fig. 3; 312] including every other electrode are electrically connected to each other, and a second group of electrodes [Fig. 3; 332] that remain beside the first group of electrodes are electrically connected to each other in the first electrode layer (see Column 3, Line 65 - Column 4, Line 15).

Regarding claims 8 and 9, Rebeschini discloses a first group of electrodes [Fig. 3; 322] including every other electrode are electrically connected to each other, and a second group of

Art Unit: 2673

electrodes [Fig. 3; 342] that remain beside the first group of electrodes are electrically connected to each other in the second electrode layer (see Column 3, Line 65 - Column 4, Line 15).

Regarding claim 14, this claim is rejected by the reasoning applied in the above rejection of claim 10.

Regarding claims 16 and 18, Tang discloses no insulation layer is provided between either of the electrode layers [Fig. 1; R1-R5 & C1-C5] and the light emission layer [Fig. 1; EL] (see Column 4, Line 13 - Column 5, Line 56).

### ***Response to Arguments***

6. Applicants' arguments with respect to claims 2-10, 14, 16, and 18 have been considered but are moot in view of the new grounds of rejection [i.e. the introduction of the Koyama et al. (US 6,144,354 A) reference].

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Inoue et al (US 5,926,238 A), Aoki (US 6,011,533 A), and Koyama et al (US 6,380,919 B1) are cited to further evidence the state of the art pertaining to emission devices.



Art Unit: 2673

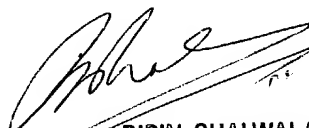
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.  
30 September 2004



**BIPIN SHALWALA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**